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SHORT COMMUNICATION

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First record of feeding and defensive behaviour in Thompson's caecilian *Caecilia thompsoni* from the Upper Magdalena Valley, Tolima, Colombia

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The most speciose caecilian genus in the Neotropics, *Caecilia* Linnaeus, 1758, has a total of 34 species distributed in southern Central America and South America. These caecilians are characterised by having an imperforate stapes, inner mandibular teeth, eyes surrounded by the maxillopalatine bone, and monocusped teeth (Wilkinson et al., 2011) and have offspring that develop within the egg so that there is no aquatic stage (Funk et al., 2004; Pérez et al., 2009).

Caecilia thompsoni (Boulenger, 1902) is the world's largest caecilian, reaching 1767 mm total body length (Arredondo-Salgar, 2007). In Colombia, this species inhabits the Magdalena Valley lowlands as well as the eastern slopes of the Cordillera Central and the western slopes of the Cordillera Oriental, ranging from 300-1600 ma.s.l. (Fig.1). According to Lynch (2000), this caecilian can be diagnosed by its range of 187-240 primary grooves, 26-42 secondary grooves, a total body length of 471 to 1767 mm (Arredondo-Salgar, 2007) and its ratio of length/width of 62-100 times. In life, its main body colouration can vary from dark purple, blue or slate on the dorsal surfaces of the body and usually a lighter hue of the same colour on the ventral surfaces of the body (Fig.2 A-H).

The diet, predatory and defensive behaviours of *C. thompsoni* are entirely unknown although it is known that the species is preyed upon by the coral snakes *Micrurus dumerilii* and *M. mipartitus* (Bernal & Palma, 2011; Herrera-Lopera & Ramírez-Castaño, 2018). Unfortunately, little is known about the majority of caecilian species because their fossorial habits keep their natural history a secret (Gower & Wilkinson, 2005); therefore, any studies aiming to document and describe natural history and ecological aspects of caecilians are important.

During the course of our routine fieldwork in Cuatro Esquinas Vereda, Carmen de Apicalá municipality, eastern Tolima department, Colombia (4°5'59.798'' N, 74°47'0.221'' W, 335 ma.s.l.; Fig.1), we were able to witness and photograph a predation/regurgitation event involving *C. thompsoni* and a large earthworm (Fig.2 A-H). This event took place on the night of 2nd April 2019 inside a highly degraded riverside forest patch, situated among an agroecosystem composed of open grasslands given over to grazing cattle, and the remnants of secondary tropical dry forest patches located in the western foothills of the Apicalá River Valley (Fig.1). The mean annual temperature of this region is 28 °C and its mean annual rainfall is 1630 mm in a biannual cycle (IDEAM, 2017; Gómez-Sánchez et al., 2021).

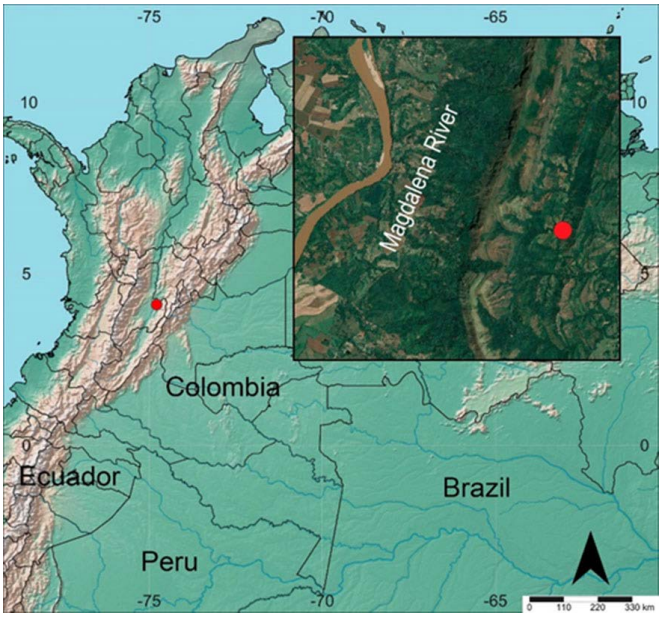

Figure 1. Map of north-western South America indicating the locality of Cuatro Esquinas, Carmen de Apicalá, Tolima, Colombia, with a red dot. The insert is a satellite image taken from Google Earth Pro.

At 23:10 h on this very humid night, we came across a medium size individual of *C. thompsoni* (ANDES-A 4462; 725 mm total body length; Fig.2) that was actively hunting a long (200 mm) earthworm (class Clitellata, subclass Oligochaeta). The main body colouration of the caecilian was somewhat blueish grey, darker dorsally and much lighter grey ventrally (Fig.2 A-H). The caecilian was observed crawling across a patch of sandy, muddy soil (Fig.2 A-H) partially covered by tree roots located along the bank of a small creek. As soon as it seemingly became aware of our presence it began to crawl backwards, perhaps trying to find shelter while testing the surface of the ground with its terminus. Then it started to regurgitate the earthworm that was half swallowed. This 'prey release' lasted approximately four minutes. Once the

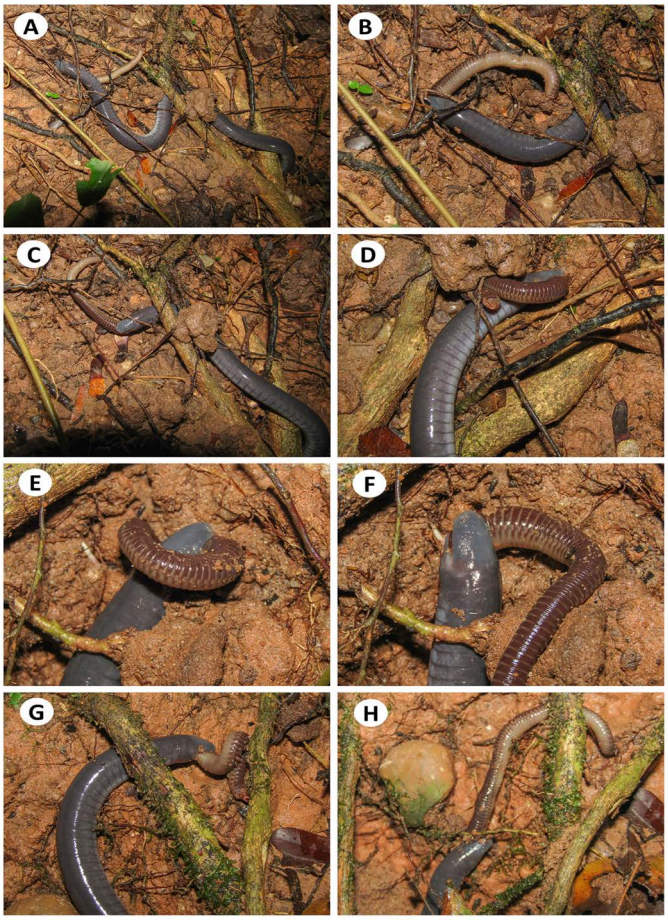

Figure 2. Details of the partial ingestion and then regurgitation of an earthworm by *Caecilia thompsoni* **A.-B**. *C. thompsoni* has bitten the earthworm, **C.** *C. thompsoni* pulls the earthworm out of the soil, **D.** The earthworm is now half eaten, **E.** *C. thompsoni* starts moving backwards slowly, **F.** Regurgitation begins, **G.-H**. *C. thompsoni* moves backwards and finishes regurgitating its prey.

caecilian finished regurgitating the earthworm, it quickly began moving forward seemingly trying to escape from us. At this point (23:14 h) both the caecilian and earthworm were captured and brought to our field station at finca El Albergue to be preserved for future housing at Museo C.J. Marinkelle, Universidad de Los Andes, Bogotá, Colombia.

We identified ANDES-A 4462 as *C. thompsoni* based on the following morphological characters and meristic data. A *Caecilia* with a total body length of 725 mm, width at mid-body of 11.6 mm, an attenuation index (length divided by width) of 62.5 times, 200 primary grooves and 44 secondary grooves found throughout its body length, no terminal shield, with subdermal scales within the connective tissue of the skin and dermal scales within the dermal pockets, dentition arranged as follows: 8-1-8 premaxillary-maxillaries, 9-1-9 prevomeropalatines, 4-4 dentaries and 2-2 splenials. At the moment *C. thompsoni* is the only Colombian caeciliid known to reach and surpass the 200 primary groove count and the number of secondary grooves and dentition falls within the range provided in Taylor's (1968) account for this species, therefore, we are confident of our identification. Furthermore, the slender and elongated body, the blueish grey body colouration, the "bullet-shaped head" (Lynch, 2000) and its provenance from the Magdalena Valley concur with the identification that we have given to this specimen.

Even though we did not provoke or attack the caecilian - at least not in any way perceivable to our human senses - we can only consider our presence (i.e., the perception of our smell, the flash of the camera, the light coming from our headlamps, and the vibration of our footsteps) in its proximity to have triggered a warning signal that prompted the caecilian to panic and start regurgitating its prey; still, the possibility that the earthworm was 'unpalatable' to the caecilian cannot be ruled out. Considering the high physiological costs associated with foraging (Duellman & Trueb, 1986) and the fact that when caecilians emerge to the surface they make themselves vulnerable to predators, we interpret prey regurgitation as a 'last resort mechanism' that sacrifices the energetic and physiological rewards of a meal for the chance to escape a potential predator.

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